IN THE UNITED STATES PATENT AND TRADEMARK OFFICE		
	Application Number	09/825,922
	Filing Date	April 5, 2001
	First Named Inventor	David E. Comings
	Group Art Unit	1634
	Examiner Name	Jeanne A. Goldberg
	Attorney Docket Number	1954-332
Title of the Invention:	METHODS OF PROFILING GENES AS RISK FACTORS FOR ATTENTION DEFICIT HYPERACTIVITY DISORDER	

Response to Restriction Requirement

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

In an Office Action mailed March 12, 2002, the examiner of the above-referenced patent application has asserted that the claims of the application are directed to more than one invention and has requested restriction to one of the following groups:

Group I: claims 1-15, drawn to a method of determining whether a subject is at risk for ADHD by genotyping TPH, PNMT, ADOA2A, NOX3 or NAT1;

Group II: claims 16-30, drawn to a method of determining whether a subject is at risk for ODD by genotyping HTR2A, PNMT or CD8;

Group III: claims 31-45, drawn to methods of determining whether a subject is at risk for CD by genotyping HTR2A, GABBR!, ADOA2A, GRIN2B, NAT1, CCK, CYP, ESR or CD8;

Group IV: claims 46-48, drawn to screening drugs by measuring protein activity;

Group V: claim 49, drawn to a method of treating a subject for ADHD by administering a nucleic acid;

Group VI: claim 50, drawn to a method of treating a subject for OCC by administering a nucleic acid;

Group VII: claim 51, drawn to a method of treating a subject for CD by administering a nucleic acid;

Group VIII: claim 52, drawn to a method of treating a subject for ADHD by administering a protein;

Group IX: claim 53, drawn to a method of treating a subject for OCC by administering a protein; and

Group X: claim 54, drawn to a method of treating a subject for CD by administering a protein.

The examiner further applied a restriction to each group. She required that for any elected group drawn to amino acid sequences the Applicants must further elect a single amino acid sequence and for any elected group drawn to a nucleotide sequences, the Applicants must elect a single nucleic acid sequence. This requirement is traversed.

Applicants hereby elect the claims of Group I, claims 1-15, for initial prosecution on the merits. The claims of this group focus on five specific genes: the genes TPH, PNMT, ADOA2A, NOS3 and NAT1. More specifically, the claims are directed to a method which comprises determining whether a subject's genome comprises a non-wild-type allele of at least one gene consisting of TPH, PNMT, ADOA2A, NOS3 and NAT1, wherein the presence of the non-wild-type allele indicates an increased risk of the subject having ADHD as compared to someone with a wild-type allele of each of those genes. As indicated by claim 2, which falls within Group I, in a preferred embodiment the method comprises determining whether a non-wild-type allele is present for each of the five genes, and, as indicated by claim 3, which also falls within Group I, the presence of a non-wild-type allele in more than one of these five genes indicates a greater risk for ADHD. Furthermore, claim 4 is directed to the method of claim 1 further comprising determining whether the subject's genome comprises a non-wild-type-allele of at least one gene from a second group of five genes. If the scope of the examined subject matter of the claims is limited to focusing on the method as it

applies to only one gene, none of claims 2, 3 or 4, each of which by definition requires an evaluation of at least two genes, nor the claims which depend from these claims, will ever be examined.

Applicants submit that they should not be required to elect a single gene for examination on the merits. As illustrated by the subject matter of the majority of claims within Group I, a key part of the present invention is the discovery that the risk of ADHD increases with the number of certain enumerated genes which are present as non-wild-type alleles. Thus, examining multiple genes is important, and, in preferred embodiments, one determines how many of each of five key genes in one group, or how many of five key genes in each of two groups, are present as non-wild-type alleles. Limiting the scope of the claims to an examination of just one gene thus would foreclose consideration of a key part of the present invention, as well as preclude ever examining the subject matter of a majority of the claims of the elected Group.

Applicants thus request that the second part of this restriction requirement be withdrawn. The examiner has not set forth any evidence that it would be an undue burden to consider the full scope of the claims of Group I at one time, and Applicants submit that, in fact, there would be no such burden. In some instances, the fact that it appears possible to subdivide the subject matter of a claim does not mean that it should be done, especially where, as here, the subdivision will obliterate, and prevent an examination of, a key aspect of the invention.

Inasmuch as Applicants must elect a specific gene in order to be fully responsive to the Office Action, however, Applicants hereby elect ADOA2A. Applicants urge, however, that the examiner reconsider and withdraw this aspect of the Action.

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